SOUTH AUSTRALIAN SOCIETY OF MODEL
& EXPERIMENTAL ENGINEERS
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SASMEE

BULLETIN

THE OFFICIAL JOURNAL OF THE SOUTH AUSTRALIAN SOCIETY

OF MODEL AND EXPERIMENTAL ENGINEERS.

S.A.S.M.E.E. B U L L E T I N.

Vol. 13 No 2.

EDITORIAL.

Sept.- Nov. 1972.

In an effort to provide a personal slant on this quarter's Bulletin and to make it what I call, for want of a better name, a"Members Project Issue," I have taken a cross section of members and asked them to provide details of what they are engaged in building, and in some cases their workshop equipment. Apart from the popular 5" gauge engines there will be information on what is going on in the 7¼" gauge field. Without entering into a discussion on the merits and demerits of this gauge, we must face the fact that there is a rising tide of interest in 7¼". It is not for me to say where these engines will run but the fact remains that a considerable number are now under construction.

You will also read notes on ship fittings and their construction and also some interesting data on what several enthusiastic members have constructed in their own time and expense of a considerable length of 5" gauge ground level track. I have been reliably informed that a useful length will have been laid by Easter 1973 in order to cater for interstate convention visitors who are accustomed to this type of track.

I hope that you will find something of interest in the various articles on another page. I have been very gratified with the response received and wish to thank all of those who have assisted.

It is pleasing to mention the steady increase in membership. At the June meeting, four new members were elected and there are at present several applications laying on the table, awaiting election in due course. This augers well for the Society, for some of us are not growing any younger and we look to the younger generation to take the reins

and guide the Club with new ideas on a successful course.

Bob Smyth and fellow helpers are doing a nice job of painting the club house and as was pointed out, this building is what first catches a visitor's eye and if it presents a pleasing appearance, creates a good impression of the entire premises.

A reminder to those who have probably overlooked their current subscription, is tendered and also any change of address and telephone number will be of assistance in compiling the new members list. Please notify the secretary of same.

As mentioned in the previous quarter's Bulletin, any article of general interest will be of great assistance to the Editor and thereby make this journal a democratic one and not a one man show.

Our President has remarked on the good attendance at working bees and thanks all of those who have attended. Well, I wish you all good sailing and steaming.

Clary Burden.
Editor & Hon. Secretary.

QUARTERLY AGENDA.

GENERAL MEETINGS.	2nd.Tuesday each month at 8 p. m.
12th September	Annual Jumble Sales. Bring along your unwanted bits and pieces and possibly pick up a bargain.
10th October.	Mr. T. Hercus will speak on machine tool construction and allied subjects,
14th November.	Annual show of work. Fine weather should prevail so help to make this an outstanding exhibit.
INTERMEDIATE MEETINGS.	(Informal) 4th Tuesday each month at 8 P.M. 26th September, 24th October and 28th November.
COMMITTEE MEETINGS.	1st. Tuesday each month at 8 p.m. September 5th., October 3rd., and November 7th.
WORKING BEES.	1st Saturday each month at 2 p.m. September 2nd., October 7th., and November 4th.
PUBLIC FIELD DAYS.	3rd Saturday each month at 2 p.m. September 16th, October 21st., and November 18th.

PLEASE CHECK WITH ROSTER FOR YOUR ATTENDANCE ON CANTEEN.

LOCO TRACK SUPERVISIORS.

B.Brown, D. Irving, L.Fielder.

FIELD DAY CANTEEN ROSTER.

SEPTEMBER.	OCTOBER.	NOVEMBER.
A. GRAHAM	W.A. CROSSE	B. SMYTH.
P. CAVANAGH	T.ENGLAND.	T. FITTON.

IMPORTANT NOTE.

IF UNABLE TO ATTEND AS PER ROSTER PLEASE PHONE SECRETARY PH. 79-5292 SO THAT A RESERVE CAN BE NOTIFIED IN TIME.

"PLEASE REMEMBER TO BRING THE MILK."

ROSTER FOR LOCKING UP ALL BUILDINGS AND GATES.

AUGUST	12th.	D. WORRELL	OCT.	14th.	D. WORRELL
	19th.	I. CLARK		21st	I. CLARK
	26th.	R. SMYTH		28th	R. SMYTH
SEPT.	2 nd.	P. GRISCTI.	NOV.	4th	P. GRISCTI
	9 th.	J. WELCH.		11th	J. WELCH
	16 th.	D. IRVING		18th	D. IRVING
	23 rd.	J. WAKEFIELD.		25th	J. WAKEFIELD
	30th.	R. BROWN.	DEC.	2nd.	R. BROWN
OCT.	7th.	N. KERNICK.		9th.	N. KERNICK.

ROSTER FOR ASSISTING ON FIELD DAYS.

SEPTEMBER	OCTOBER	NOVEMBER
N. MCLEOD	W. KLOEDEN	S. FACCENDA

COMING EVENTS.

The annual Jumble Sale will take place at the September General Meeting. The Auctioneer, no doubt, will be Uncle Al, aided by Jonny Welch, both prepared to accept bids and naturally of course your hard earned cash.

September 30th has been set aside for a special track day to assist the Spina Bifida Association. As a large crowd will probably attend, a good muster of locos and drivers is asked for and of course Norm and Herb to provide thrills on the pond. We also look forward to seeing the Steam House in full operation as the working models are a definite attraction.

At the November General Meeting our annual Show of Work is to be held and with your cooperation in presenting your work for others to see we should have an outstanding exhibit, especially now that so many interesting locos are under construction.

I have arranged for a visit to be paid to "Sola International" on August 16th. (a Wednesday) at 7.30 p.m. Intending visitors are requested to let me know how many will be going so that guides for the tour can be arranged.

The Annual Christmas Barbecue of Members and their families will be held as usual at the conclusion of running on December Field Day. Members are urged to make this affair successful by their attendance.

Those members who intend visiting Whyalla over the Labour Day long weekend in October and requiring hotel accomodation are advised to make early bookings, as there will probably be a shortage owing to, I believe, the opening ceremony of the Port Augusta- Whyalla railway.

At the November off night meeting Tuesday 28th the revised rules and constitution will be discussed and offered for adoption or rejection. A good attendance is requested as the matter is of considerable importance.

A visit has been arranged to inspect the S.A.R. Train Control Room on Tuesday September 26th. It is necessary to know how many will attend in order to assist the Dept. in its arrangements.

At the July meeting it was decided to hold a Public Field Day September 3rd. which coincides with the Royal Show held between September 1st - 9th., in order to give country visitors am opportunity to see SASMEE in action.

S.A.S.M.E.E. NEWS.

We recently had the pleasure of a visitor from Geelong, namely Chris. O'Toole, grandson of Vin O'Toole, who until his death was known to a number of SASMEE members as a keen modeller with his garden track. Chris attended our June Field Day and with several other friends spent Saturday evening at my home.

The long awaited Car Stickers have arrived and are available for any member desiring one.

Our wandering friend Bob Smith has returned to the fold and was noticed driving his latest production on June track day.

At the June meeting we were entertained by a very informative talk on lubrication by a recent new member, Laurie Fielder.

We now have a large shed in the vicinity of the new steam bay. It will be used to house air compressor, riding trucks and a switchboard for distribution of power in that area.

I noticed George Nicolson of Tregelana Station was present at the June track day. He is well known to all who have attended the meeting at Whyalla Model Engineers track. We are indebted to him for his freely offered use of his shearers quarters.

Another visitor to SASMEE was Murray Hill of the Toorabbin Society. He spent a Saturday morning at my home, driving "Britannia" and then was taken down to SASMEE, met the members present and showed great interest in our 5" ground level track.

At the July general meeting Mr. Koch of the I.L.I. delivered an informative talk on steam boilers and pressure vessels. Interesting slides were shown, showing the effects of over heating and corrosion etc.

For the information of interstate visitors to the coming Convention to be held at SASMEE park Easter 1973, we regretfully advise that we will be unable to accomodate caravans on the grounds. There will be limited space for 4 tents only. Owing to the construction of a large turn- table for our new steaming- up bay and also the erection of a shed to accomodate various gear, and the necessity to provide parking space for visitors cars, we are obliged to take this step. However intending visitors will later be informed of caravan parks and all relevant matters regarding accomodation for visitors.

A word of appreciation is tendered to those members who assisted with the preparation of various component parts used in the relaying of the track adjacent to the lane. To those who loaned their power hacksaws and performed milling machine operations etc., we say a big thank you. Also to those who assisted with welding and other jobs associated with this project.

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Members requiring a boiler test are advised that in future the fitting of connecting test rig to boiler has been changed from 5/16" x 32 T.P.I. to 5/16" x 26 T.P.I. (brass thread). Owing to the difficulty in obtaining taps and dies at 32T.P.I. this step has been taken.

Bulletins and news letters have been received from Qld., N.S.W., VIC., W.A., Whyalla and New Zealand. These are displayed on the notice board and you are invited to read them.

In a recent letter to Owen Thomas, Ralph Excell, one of our Honorary Life Members mentions that he will arrive in Adelaide on the "Chusan" October 18th. He expects to be here for about a fortnight.

FOR SALE.

Part completed 3½" gauge 2-10-0 "Evening Star"
$400.00

Please contact O.A. Thomas C/- SASMEE.

And now having covered (I hope) all matters relevant to your Society. I now invite you, in the best radio announcer's fashion to sit back and read of what I mentioned in the Editorial page, namely the activities and workshop equipment of various members.

Harry Pearce, one of our very early members and now a Life Member.

Most of us have seen Harry's 5" King John and admired the workmanship and attention to detail he put into it, and no doubt we can expect to see the same qualities exhibited in his current model, a Queensland sugar cane tank engine, the last steam loco to be built by Fowlers, type 062. In a recent conversation Harry supplied the following details:

Built in 3½" gauge to a scale of 1¾" to the foot the engine will be 34" overall. Vital statistics are cylinder bore and stroke 1⅜" x 2", wheel diameter 4" grate area 4" x 5". The boiler is of the round top type and is filled with ½" fire tubes and 3 super heater flues. One steam dome and two sand domes are atop the boiler and a diamond shape spark arrestor is filled to the chimney top, Side tanks 18½" long, 2 5/8" wide and 5⅛" deep are carried on either side of boiler and one is fitted with a hand pump of ¾" bore. The cab is 12" x 12". Southern valve gear controls the slide valves, the movement obtained by means of return cranks.

A cross head pump maintains boiler level and the fire box sits between the frames. All of the essential parts have been completed and Harry hopes to have it running by next Easter. A friend in Queensland with whom he corresponds is also building one.

A visit to Chas Hill's workshop.

A few weeks ago I spent a pleasant evening in Chas's "air conditioned" retreat from the business world, and enjoyed a talk on his current production "Virginia" in 5" gauge and was greatly impressed with some of the jigs and tools he has made. A sensetive drill provides the answer for drilling very small holes and a spring setting rolls for producing the camber on spring leaves looked very effective. Drill jigs for donkey pumps of which he has made 6, lathe index device, hand wheel jig and numerous other hand tools add up to a useful collection. A 4½" A.R. Hercus lathe, milling machine and a heavy duty drilling machine are his main machine tools. The lathe is equipped with vertical slide, fixed and travelling steady and a special cross slide. A variety of milling cutters and several machine vices plus air compressor and oxy acetylene add up to a very complete modellers outfit. Plenty of shelving and cupboard space makes finding things easy and a talk back system keeps him in contact with the house. He is constructing an impulse clock among other projects and hopes to resume work on Virginia soon.

Virgina's fender, a massive production in heavy gauge brass is nearing completion, but the engine is still on the drawing board. He has a complete set of wheel castings which have been very nicely cast. They hardly require touching with a file. Asked about his future plans, he intends to build "Virginia" in 7¼" gauge. In the word of Shakespeare, "that will surely be something"
Thanks Chas for a pleasant evening.

The following information has been supplied by Morrie Turner on the progress made with the construction of the 5" gauge ground level track.

Approximately 550 ft. of track completed and over 800 wooden sleepers cut and 5 sets of points made, namely 2 R.G. and 2LH and also 1Y.

Track dimensions are as follows:
1" x ⅜" rail with 1" x ¼" cross ties welded at 8" centres with 2" x 1" x 11" long hardboard sleepers fixed with 2-1" x 10G. steel screws.

Main line curves are 50 ft. and 42 ft. 6 ins radius ¼" super elevation built in. Made in wood jigs. Turnout on points 42' 6" radius. Lead in from steaming bay is 40 ft. radius.

Up till now all materials have been supplied by Murray Sambell, John Wakefield, Ron Thompson of "The Alice", Keith Bradford and myself. We look

forward to more help shortly.

Signed by M. Turner.

Noticing Grayson Calvert trying out his "W" class silverton tramway chassis for its ability to negotiate the elevated tradk curves I asked him for some details of his engine and was supplied with the following:

The gauge is 3 ft. 6 ins., (the original) wheel set-up 4-8-4 and he is working to a scale of 1.43 ins. to the foot. With fender the overall length will be 7ft. 5ins. Quite an imposing piece of machinery for 5" gauge. The fixed wheel base is 19⅝" and total wheel base of engine is 44 5/8"

The boiler with round top firebox has a dia of 7¼" with 20" between tube plates. Grate area is 54 sq. ins. On these dimensions the boiler should be a magnificent steamer. Cylinder bore is 1.91" x Stroke 2.86" with driving wheels of 5¾" dia and bogie wheels 3.6" dia. Height to top of chimney will be 17¾" and the width over cab 11¾". This engine when completed will probably be one of the largest at SAS MEE and should be capable of pulling a considerable load. We look forward to observing its performance.

The following has been supplied by Owen Thomas.

"VULCAN" by Owen Thomas.

Before I finished building my loco "Meredith", I looked about for the next subject to model. I took a fancy to "Vulcan", an 0-6-0 ST in 3'6" G built by Vulcan, at Wilkes Barre Pa. U.S.A. about the end of W.W.1 and imported by the Federal Government, for the construction of the Henderson Naval Base to be built near where Kwinana now stands in W.A.

Base was never built, two locos were sold to Com. Rails and used at Quorn S.A. and two to the Cement works at Fyansford near Geelong. Only one of the latter remains in working order at the Belmont Common Railway at Geelong. They were typical American saddle tanks of the period.

From the lesson I learnt from building "Meredith", this loco is built to a scale of 1½" to 1 ft. to run on 5" G. A general arrangement drawing was made from measurements of the actual loco and details scaled from photo enlargements.

The model will be 36" long, 11" wide and 15" high. Rigid wheel base 11" long. Wheels 4½" dia., cylinders 1 5/8" x 2¼". The boiler is almost a replica of "Netta" in 5" G. Bar frames are used, as in the original, while the outside cylinders with flat valves are operated by rocking shafts, from the inside motion. The original was fitted with Stephenson V. gear, but when drawn out, this showed up some rather poor features, due to

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John Moorfield rebuilds 2 engines.

Over the years John has proved to be a very versatile modeller. Some years ago he was interested in the speed car track, now dismantled, has constructed a fine W.A. Railways Diesel Loco, and in 1956 built "Netta" a 3½" Gauge 0-8-0 shunting engine, one of L.B.S.C. designs. Both of these engines have been regularly run on our Field Days. Lately he has reboilered "Netta", complete with all new backhead fittings and super heater flues, over hauled all the moving parts and repainted like new again. "Netta" has had several runs on recent track days and should give many years of service.

At the moment he is rebuilding a 2½" gauge American Atlantic type built by the late Reg. Lynch during 1928. Cylinders were rebored and port faces remachined and mechanical lubricator fitted. "O" rings fitted to pistons and glands and a new boiler with combustion chamber and wide fire box should supply plenty of steam. Chassis has been run on air satisfactorily. Engine is now about ¾ completed, leaving sheet metal work and painting to complete, ready for a boiler test.

He is also constructing an English Type "Atlantic" in 3½" gauge. This engine, fitted with Walschaerds gear, is nearing completion. The new boiler, with wide fire box has a combustion chamber to aid steam production and has been completed. We await

with interest to see the performance of this free lance design on the SASMEE track.

His workshop equipment consists of a Myford lathe and home made milling attachment, air compressor and a large range of engineers and wood working hand tools. Natural gas plus a vacuum cleaner as blower provide heat for brazing and soldering jobs.

John has in the past been a keen boat modeller but turned towards locos some years ago, but feels that he may return to his past love in the not so distant future.

Murray Sambell supplies the following.

My first effort at model engineering is the construction of a mountain type S.A.R. 500 class loco, 4-8-2-, in 5", as they were first installed. I have not found the task easy so far, as I know machining, but not the workings of locos. However with lots of questions and the right answers from fellow members, I will make it.

I have made all the parts of the main frames and springing, 8 driving wheels and axles and have them quartered and coupling rods fitted and rolling. The smoke box and chimney are finished and the cylinders, made of bronze, with the porting cast in are partly machined. Also partly completed are the frames, brake hangers, and springs for the tender. I have in my workshop a Kearns model S borer, Amtega pedestal drill, a bandsaw to cut steel and wood, a Hercus 4½" A.R. model lathe, and two other machines which I have built since joining SASMEE in early 1971, a Clarkson designed Tool and Cutter grinder and a Claud Miller 10" shaper.

I have patterns for a swivel based vice, 4 5/8" wide x 1¾" deep which will open to 6¼". I will lend these to members interested in having them cast.

Other parts completed are 2 motion Girders, 2 connecting rods, 2 cross heads and buffer beam and buffers.

From our boat section by Herb Croker.

1. Building a TWIN CYLINDER LAUNCH ENGINE with Stephensons Link reversing gear. Cylinders 1" bore by 7/8" stroke. All castings and drawings from Stuart Turners of Henley on Thames.

2. Restoring the Mississippi River Boat built by the late Phil Claridge. This spectacular model was the most ambitious of Phil's projects but he did not live to see it finished. About a year ago I was informed by the Rev. John Madden that it was in a junk shop at Victor Harbour. He recovered it and sold it to me, in a deplorable state and I have spent much time rebuilding the superstructure and hope, in time, to launch it as a radio controlled electric model of one of the romantic old showboats of the Mississippi.

From Norm Kernick. Ideas for Model Ship Builders.

Hand rails on small scale ship models are difficult things to get looking right without being clumsy or overscale. Most methods using stanchions turned from the solid bar, or fabricated from split pins cannot be applied to models of a scale much less than ½" to the foot.

One way of making a fair representation is as follows. On the squared off end of a short piece of rectangular steel bar of suitable size make parallel hacksaw cuts across the bar, spaced to the desired centre distance between rails and to a depth of about 1½ times the rail diameter.

FIG 1

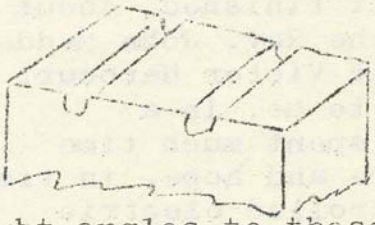
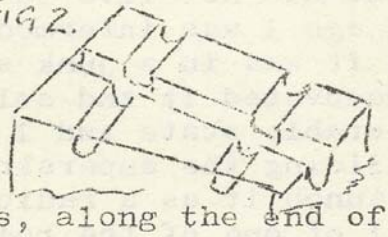


FIG 2.



At right angles to these cuts, along the end of the bar, saw to a depth of approx. the stanchion diameter. See figure 2. Bend a piece of steel wire of the same diameter as the rails to a hair- pin shape so that the parallel pieces will fit easily in the parallel cuts in the steel bar.

Material suitable for both rails and stanchions is tinned copper wire of appropriate diameter, hardened and straightened before use by stretching. Cut stanchion lengths well oversize, allowing for waste at one end and for sufficient to enter drilled holes in the deck at the other.

Lay each stanchion length in the long cut in the steel bar, (firmly held in the vice,) place steel wire in position.

above the parallel slots and give it a smart crack with a hammer. The stanchion should come out as in figure 3.

FIG. 3

A wooden jig with parallel saw slots can easily be made to hold the stanchions steady and parallel while the rail is laid in the recess made for it, and fastened with the minimum of solder and a hot iron. The excess length at the top can be cut off before soldering if care is taken. A little trimming with a small file may be necessary to make all neat and shipshape.

Paul Griscti tells of his progress with his traction engins.

3" Scale "Allchin" Traction Engine.

When I first started on this model, members of the society questioned the scale. There were already patterns available for a 1½" scale engine and the use of these could save time. As I had already made other models to 3" scale I felt that it would be better to keep all models to the one scale, especially as the stone crusher could be then coupled up to the traction engine.

Since starting on this model traction engine the trend both overseas, and in Australia, has been towards the larger scale and I have supplied castings for this model to other fellow modellers in Australia and am currently sending castings to New Zealand.

Because of the interest in the 3" scale "Allchin", I have made the more fragile patterns in metal to promote long foundry life. The number of patterns so far has required some 900 hours of work and the remaining few will take the total to about 1,000 hours, so it is just as well that others will get some benefit from their use. This service is given to club members at no cost for the use of patterns.

A few hours of machining sometimes follows as a casting wheel took 20 hours of patternmaking but no effort has been spared to get the model as near to the original prototype as is possible.

After many halts caused by the problem of earning a living, the end is in sight. All the valve gear is finished, the cylinder requires an end cover, and then the motion work can be tried under air. The final drive gear, acquired from the spare flywheel of a Jaguar motor car owned by one of our members, has to be fitted to the differential and the gearing will be completed. When this is done the hind wheels will be finally rivetted up as they are only temporally bolted up at present. The boiler is

completed except for tubing and a man hole door to be fitted.

At present it stands in the workshop awaiting dismantling after being given a trial run on compresses air. The dismantling is necessary to tube the boiler and have its final test and then begins the long job of painting and lining before final assembly.

When this model is completed, I will build another traction engine, or possibly a steam wagon to the same scale as I find that this size is within the capacity of a "Hercus" lathe, with a few exceptions, and these I can handle on my milling machine. I took the trouble to thread the nose of the milling machine spindle the same as the Hercus lathe and so can turn hind wheels 18" diameter by 6" face.

A word of advice to future modellers of traction engines is to build the boiler shell first, and leave out the front tube plate till after the fitting of the cylinder, other wise strange antics are necessary to place the cylinder down bolts, and in my case the man hole has proved to be an asset. I hid the man hole behind the tool box fitted to the foot board.

The next major job will be the building of a passenger cart to fit behind the engine and provision for carrying extra fuel and water will be made so as to be able to use the traction engine at the club grounds as well as taking it to visit other model engineering clubs.

"Jubilee" in 7¼" gauge being constructed by John Welch.

As requested by our Secretary, I am giving you a run down on how I am progressing with my project. My reasons for building this loco have already been expressed by me. After having first driven Morrie Turners 3½" gauge Jubilee, I built the 5" version and this lived up to the reputation of the 3½" where performance was concerned. Now I realized that a 7¼" tank loco, unless you sat on the fender you would be a long way back, in other words, "not with it." I fully realized when you build 7¼" you are building a real heavy loco and castings etc. would cost a lot of money in bronze, so I have had my cylinders cast in cast iron which has 10% of stainless steel in them and incidently they machined very well indeed.

A few figures could be of interest. The frames are cut from ¼" M/S plate, 6 ft. 6 ins. long and 6 ins. deep and weigh approxamately 45-50 lbs. Cylinders and steam chest complete- 18 lbs. Driving Wheels 11 lbs.

The smoke box is made from 8½" bore casting. The boiler will be 3/16" copper plate and will have 125 lbs. working pressure and as our code only caters for 100 PSI, this matter will have to be looked into. Back head and throat plates will be ¼" copper. I realize that this ¼" plate will be heavy to work, but I feel that it will be well worth while. However I have a long way to go yet, but have had a lot of fun so far.

PATRON

MR. R.J. FITCH — COMMISSIONER, S.A.R.

VICE-PATRONS

MR. A.W. CROSSMAN — C.M.E. S.A.R.
MR. C. SCHAUMLOFFEL — LOCO. SUPERINTENDANT S.A.R.

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